

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

Boston Edison Company)
Cambridge Electric Light Company)
Commonwealth Electric Company)

D.T.E. 03-121

**NSTAR ELECTRIC FIRST SET OF INFORMATION REQUESTS TO THE NEW
ENGLAND DISTRIBUTED GENERATION COALITION**

Instructions

The following instructions apply to this set of information requests and all subsequent information requests issued by NSTAR Electric in this proceeding.

1. Each request should be answered in writing on a separate page (paginated) with a recitation of the request, the identification number of the request (for example, NSTAR-NEDGC-1-1), the docket number of the case, the date of the response, and the preparer of the response or the name of the person responsible for the answer. Please mark each page of an answer with the identification number of the request. In addition, please clearly reference any attachments to a response with the number of the request to which it applies and include page numbers on all attachments.
2. Please do not wait for all responses to be completed before supplying answers, but instead please provide the answers as they are completed.
3. These information requests shall be deemed continuing in nature so as to require further supplementation if NEDGC or its witness receive or generate additional information within the scope of those requests between the time of the original response and the close of the record in these proceedings.
4. The terms used interchangeably within these information requests relating to "any and all", "documentation", "support", and "justification" mean provide all data, assumptions, and calculations relied on. Provide the source of and basis for all data and assumptions employed. Include all studies, drafts, memos, reports, and planning documents from which such data, estimates and assumptions were used. Provide and explain any and all supporting workpapers.
5. The term "document" is used in its broadest sense and includes, without limitation, writings, drawings, graphs, charts, photographs, phonographic records,

microfilm, microfiche, computer printouts, memoranda, letters, correspondence, handwritten notes, records and reports, bills, checks, articles from journals or other sources, and other data compilations from which information can be obtained, and all copies of such documents that bear notations or other markings that differentiate such copies from the original.

6. If the Respondent believes that any of these information requests are ambiguous or need clarification, please contact David Rosenzweig or Stephen August at (617) 951-1400 so that the requests can be clarified prior to the preparation of a written response.
7. If an answer provides a reference to another information response, please provide that response with the answer.
8. If a question refers to an information request of another party, please provide an answer with information that supplements the previous responses.

Information Requests

Information Requests Relating to the Pre-Filed Testimony of Mr. Casten

- NSTAR-NEDGC-1-1 Please provide copies of (1) any and all prefiled testimony or reports (including all associated exhibits and attachments) submitted by Mr. Casten to state and federal regulatory authorities from 1999 to the present; and (2) any and all transcripts of Mr. Casten's testimony at hearings (adjudicatory or non-adjudicatory) before state and federal regulatory authorities from 1999 to the present.
- NSTAR-NEDGC-1-2 Provide copies of any and all regulatory decisions addressing the issues covered by Mr. Casten in testimony provided in response to NSTAR-NEDGC-1-1. Identify the decision making authority, docket number, year of the decision, and any official citation to the decision.
- NSTAR-NEDGC-1-3 Please identify all documents relied upon by Mr. Casten in preparing this testimony. Please provide a copy of each identified document.
- NSTAR-NEDGC-1-4 Please provide a copy of any and all articles, papers, speeches or other reports prepared in whole or in part by Mr. Casten addressing, distributed generation, standby rates and/or rate design.
- NSTAR-NEDGC-1-5 Referring to page 3, lines 8-18, please provide the date, duration and size (MW) of outages since the generator came

on line. Please indicate whether each outage was planned or forced.

NSTAR-NEDGC-1-6 Referring to page 3, lines 15-18, please identify the year-by-year investment in the system, including construction and operating costs and annual electricity savings. Please identify all assumptions adopted to develop this response and provide copies of the calculation of the \$15,000 savings and any and all documents that relate to this response.

NSTAR-NEDGC-1-7 Referring to page 4, lines 2-18, please describe in detail any and all electric self-generations systems designed by your company that have been installed by customers in Massachusetts. The identity of the customers may be redacted to protect their privacy. The description shall include, but not be limited to the following information:

- (a) the installation date of the system;
- (b) the size (i.e., nameplate rating) of the self-generation unit;
- (c) the thermal source used to generate electricity;
- (d) the fuel used to produce the energy;
- (e) the annual number of kilowatt-hours produced (actual and estimated);
- (f) the annual number of hours the self-generation unit is operational.
- (g) the date, duration and size (MW) of outages since the generator came on line. For each outage identify whether it was forced or planned.

NSTAR-NEDGC-1-8 Referring to page 5, line 7, please (a) define the acronym "ROA;" (b) provide the basis, assumptions and data supporting the finding that projects require a ROA of over 40 percent to proceed; and (c) provide copies of any and all documents that relate to this response.

NSTAR-NEDGC-1-9 Referring to page 5, lines 3-16, what is the average useful life of the referenced facilities?

NSTAR-NEDGC-1-10 Referring to page 5, lines 12-16, please provide any studies, documents and assumptions supporting the statement that self

generation projects “require total energy savings sufficient to recover all capital in 2 years of less”?

- NSTAR-NEDGC-1-11 Referring to page 5, lines 12-16, is it the position of Mr. Casten that it is appropriate for the Department to establish standby rates to ensure that self-generation projects “recover all capital in 2 years of less”? If so, please provide the basis for that position and any and all documents that relate to this response.
- NSTAR-NEDGC-1-12 Referring to page 6, lines 4-7, please provide the basis for the estimate that the proposed standby rates would reduce customer savings by “15-50% per year.” Please provide a copy of all calculations, assumptions workpapers, spreadsheets or other documents that show the calculations. The copy should be provided both in paper form and electronically. The electronic version should be in Excel format and show all inputs, formulas and linked sources.
- NSTAR-NEDGC-1-13 Referring to page 6, lines 17-20, please provide a copy of any and all studies performed by Mr. Casten that assess the impacts of his firm’s generators on grid upgrades, congestion and reactive power in the service territories of Boston Edison, Cambridge Electric or Commonwealth Electric.
- NSTAR-NEDGC-1-14 Referring to page 6 line 20 through page 7, line 1, please provide a copy of any and all studies performed by Mr. Casten that assess the relative efficiency of his firm’s generators in comparison the generation serving the customers located in the service territories of Boston Edison, Cambridge Electric and Commonwealth Electric.
- NSTAR-NEDGC-1-15 Referring to page 7, lines 12-14, please provide a copy of the analysis performed by Mr. Casten that forms the basis of his conclusion that standby customers would in some cases be charged more for distribution service than “would a similarly situated all requirements customer to which [NSTAR Electric] was providing power.” The response should include a copy of all calculations, assumptions workpapers, spreadsheets or other documents that show the calculations. The copy should be provided both in paper form and electronically. The electronic version should be in Excel format and show all inputs, formulas and linked sources.
- NSTAR-NEDGC-1-16 Referring to page 8, line 20 through page 9, line 1, please provide a copy of any and all studies performed by Mr. Casten that identifies the deferral of expensive transmission and

distribution upgrades resulting from the installation of DG in the service territories of Boston Edison, Cambridge Electric or Commonwealth Electric.

NSTAR-NEDGC-1-17 Referring to page 9, lines 13-16, please provide a copy of any and all studies performed by Mr. Casten that assess and/or quantify the impacts of the proposed standby rates on:

- (a) DG systems that are base-loaded;
- (b) DG systems that are winter peaking;
- (c) DG systems that are summer peaking;
- (d) DG systems that show strong daily load fluctuations.

Information Requests Relating to the Prefiled Testimony of Mr. Vardakas

NSTAR-NEDGC-1-18 Please provide copies of (1) any and all prefiled testimony or reports (including all associated exhibits and attachments) submitted by Mr. Vardakas to state and federal regulatory authorities from 1999 to the present; and (2) any and all transcripts of Mr. Vardakas's testimony at hearings (adjudicatory or non-adjudicatory) before state and federal regulatory authorities from 1999 to the present.

NSTAR-NEDGC-1-19 Provide copies of any and all regulatory decisions addressing the issues covered by Mr. Vardakas in testimony provided in response to NSTAR-NEDGC-1-17. Identify the decision making authority, docket number, year of the decision, and any official citation to the decision.

NSTAR-NEDGC-1-20 Please identify all documents relied upon by Mr. Vardakas in preparing this testimony. Please provide a copy of each identified document.

NSTAR-NEDGC-1-21 Please provide a copy of any and all articles, papers, speeches, presentation or other reports prepared in whole or in part by Mr. Vardakas addressing, distributed generation, standby rates and/or rate design.

NSTAR-NEDGC-1-22 Please provide a copy of all correspondence with existing customers concerning NSTAR Electric's proposed standby rates.

NSTAR-NEDGC-1-23 Referring to page 2, lines 10-12, please describe in detail any and all electric self-generations systems designed by your company that have been installed by customers in Massachusetts. The identity of the customers may be redacted to protect their privacy. Identify which customers are located in NSTAR Electric's service territory. The description shall include, but not be limited to the following information:

- (a) the installation date of the system;
- (b) the size (i.e., nameplate rating) of the self-generation unit;
- (c) the thermal source used to generate electricity;
- (d) the fuel used to produce the energy;
- (e) the annual number of kilowatt-hours produced (actual and estimated);
- (f) the annual number of hours the self-generation unit is operational; and
- (g) the date, duration and size (MW) of outages since the generator came on line. For each outage identify whether it was forced or planned.

NSTAR-NEDGC-1-24 Referring to page 5, lines 4-5, please provide a copy of United Illuminating's Backup Rate Tariff NUS.

NSTAR-NEDGC-1-25 Referring to page 5, lines 9-18, please provide a clear example of the application of the Company's proposed tariff that demonstrates the purported circumstances where a customer will be "double charged" for demand charges. Identify all assumptions and provide all formulas and calculations used to create this example.

NSTAR-NEDGC-1-26 Referring to page 6, line 4, please provide any and all documentation to support the assertion that "[t]he typical mid-size customer does not understand their current billing."

NSTAR-NEDGC-1-27 Referring to page 6, lines 10-12, please provide a record of all invoice inaccuracies issued by NSTAR Electric to its customers that you are aware of that raise the stated concern over invoice inaccuracies. Please provide all documents that support this response.

- NSTAR-NEDGC-1-28 Referring to page 6, lines 19-20, please identify and provide all documents that support the conclusion that “costly, complex metering is needed to properly apply this rate to small scale CHP.”
- NSTAR-NEDGC-1-29 Referring to page 7, lines 4-5, please identify what rate of return is required for a facility to make the discretionary purchase of a CHP system. Provide all documents, studies and analysis to support your response.
- NSTAR-NEDGC-1-30 Provide all documents, studies and analysis that identify the rate of return that would be earned by a CHP system under NSTAR Electric’s proposed standby rates.
- NSTAR-NEDGC-1-31 Referring to page 8, lines 10-12, please provide all documents, studies, data, and analysis to support the assertion that “even accounting for scheduled maintenance and unscheduled outages typical systems annually operate 97 percent of the time.”
- NSTAR-NEDGC-1-32 For all systems located in NSTAR Electric’s service territory, identify the number of planned outages for each facility in 2003, the number of unplanned outages for each facility, the duration of each outage, the reason(s) for the planned or unplanned outage; and the duration of the outage. If the outage was less than 24 hours, list the hours of the day during which the outage occurred.
- NSTAR-NEDGC-1-33 Referring to Attachment 2, letter from MassHousing to Mr. Vardakas, please provide all correspondence between MassHousing and Mr. Vardakas relating to NSTAR Electric’s proposed standby rates.

Information Requests Relating to the Prefiled Testimony of Mr. Smith

- NSTAR-NEDGC-1-34 Please provide copies of (1) any and all prefiled testimony or reports (including all associated exhibits and attachments) submitted by Mr. Smith to state and federal regulatory authorities from 1999 to the present; and (2) any and all transcripts of Mr. Smith’s testimony at hearings (adjudicatory or non-adjudicatory) before state and federal regulatory authorities from 1999 to the present.
- NSTAR-NEDGC-1-35 Provide copies of any and all regulatory decisions addressing the issues covered by Mr. Smith in testimony provided in response to NSTAR-NEDGC-1-33. Identify the decision

making authority, docket number, year of the decision, and any official citation to the decision.

- NSTAR-NEDGC-1-36 Please identify all documents relied upon by Mr. Smith in preparing this testimony. Please provide a copy of each identified document.
- NSTAR-NEDGC-1-37 Please provide a copy of any and all articles, papers, speeches, presentation or other reports prepared in whole or in part by Mr. Smith addressing, distributed generation, standby rates and/or rate design.
- NSTAR-NEDGC-1-38 Please provide a copy of all correspondence with existing customers concerning NSTAR Electric's proposed standby rates.
- NSTAR-NEDGC-1-39 Referring to pages 2-3, please identify the specific state and city incentives that make up the almost \$7,000,000 now being pursued by Equity Office Properties. Please identify the status of each of these requests.
- NSTAR-NEDGC-1-40 Referring to page 2-3, please describe and itemize the specific investments that constitute the almost \$27,000,000 in Equity Office Properties CHP effort.
- NSTAR-NEDGC-1-41 Reference page 3, lines 5-9, please identify each customer location by address within NSTAR electric's service territory where EOP believes a CHP installation "would make economic sense."
- NSTAR-NEDGC-1-42 Provide a copy of any and all correspondence between EOP and its employees at facilities where EOP believes a CHP installation would make economic sense concerning NSTAR Electric's proposed standby tariffs.
- NSTAR-NEDGC-1-43 Referring to page 3, lines 15-18, please identify the necessary cost margin required between the delivered cost of electric and thermal energy (steam, hot water, chilled water, etc.) and the price of fuel to go forward with a CHP installation. Please provide all workpapers and calculations needed to perform this analysis both in hard copy and in an electronic spreadsheet.
- NSTAR-NEDGC-1-44 Referring to page 5, lines 5-6, please explain why the systems used by EOP typically will handle 25-35 percent of a buildings electrical and thermal requirements rather than a greater percentage approaching 100 percent.

- NSTAR-NEDGC-1-45 Referring to page 5, lines 8-11, please provide all documents in the possession of EOP that analyze, review, study, review or otherwise assess the CHP market in Boston.
- NSTAR-NEDGC-1-46 Identify the location of all sites owned by EOP in NSTAR Electric's service territory that currently have a CHP system. The description shall include, but not be limited to the following information:
- (a) the installation date of the system;
 - (b) the size (i.e., nameplate rating) of the unit;
 - (c) the thermal source used to generate electricity;
 - (d) the fuel used to produce the energy;
 - (e) the annual number of kilowatt-hours produced (actual and estimated);
 - (f) the annual number of hours the self-generation unit is operational; and
 - (g) the date, duration and size (MW) of outages since the generator came on line. For each outage identify whether it was forced or planned.
- NSTAR-NEDGC-1-47 Referring to page 9, lines 2-9, please identify all studies, reports, analysis or other documents that quantify the benefits to distribution system capacity and congestion that are purported to result from CHP.
- NSTAR-NEDGC-1-48 Referring to page 9, lines 15-17, for each building with CHP generation, please provide the maximum hourly loads generated by the CHP system, and total hourly generation for the most recent one-year period.
- NSTAR-NEDGC-1-49 Referring to page 12, line 21, please define "cost effective" and explain in detail how cost effectiveness of a CHP project should be calculated.
- NSTAR-NEDGC-1-50 Please describe what portion of the benefits described in response to NSTAR-NEDGC-1-47 are available when the CHP system is not operational either for planned or unplanned outages.
- NSTAR-NEDGC-1-51 Please identify the rate of return that would be required at an EOP facility to install a CHP system. Please provide all

documents that support this response and a pro-forma spreadsheet used by EOP to calculate its rate of return for CHP systems. Please provide an electronic file of this pro-forma analysis.

NSTAR-NEDGC-1-52 For all systems located in NSTAR Electric's service territory, identify the number of planned outages for each facility in 2003, the number of unplanned outages for each facility, the duration of each outage, the reason(s) for the planned or unplanned outage; and the duration of the outage. If the outage was less than 24 hours, list the hours of the day during which the outage occurred.

NSTAR-NEDGC-1-53 Provide all documents, analysis, memoranda, and studies identifying the effect and economic consequence to EOP were NSTAR Electric's proposed rates to be approved as filed with the Department of Telecommunications and Energy. Provide all backup workpapers and calculations used to support this response.